

PTO/SB/81 (11-04)

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**POWER OF ATTORNEY  
and  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

Application Number	10/628,897
Filing Date	July 28, 2003
First Named Inventor	Kenneth D. Price et al.
Title	Stirling/Pulse Tube Hybrid Cryo ...
Art Unit	3744
Examiner Name	William C. Doerrler
Attorney Docket Number	PD-02W116

I hereby revoke all previous powers of attorney given in the above-identified application.

I hereby appoint:

 Practitioners associated with the Customer Number:

23915

OR

 Practitioner(s) named below:

Name	Registration Number
John E. Gunther	43,649

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

 The address associated with the above-mentioned Customer Number:

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<input checked="" type="checkbox"/>	Firm or Individual Name	JOHN E. GUNTHNER			
Address	P.O. Box 902 (EO/EO4/N119) 2000 E. El Segundo Boulevard				
City	El Segundo	State	CA	Zip	90245-0902
Country	United States of America				
Telephone	(310) 647-3723	Fax	(310) 647-2616		

I am the:

 Applicant/Inventor. Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

**SIGNATURE of Applicant or Assignee of Record**

Signature		Date	02/21/2005
Name	John E. Gunther	Telephone	(310) 647-3723
Title and Company	Regional Patent Engineer, RAYTHEON COMPANY		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

 \*Total of 01 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

RAYTHEON COMPANY

DELEGATION OF AUTHORITY

PATENT APPLICATIONS AND OTHER DOCUMENTS



I, Glenn H. Lenzen, Jr., Vice President of RAYTHEON COMPANY, pursuant to the authority vested in me by the Board of Directors of RAYTHEON COMPANY, do hereby delegate to John E. Gunther, but without power of redelegation, the authority to execute and deliver for and on behalf of this Company patent applications, as well as any other documents in connection with obtaining and maintaining United States of America and foreign patents, and matters similar thereto, however denominated, including specifically but not by way of limitation powers of attorney in connection therewith.

The foregoing delegation of authority, unless earlier rescinded, shall terminate upon notification in writing to the Office of the Secretary.

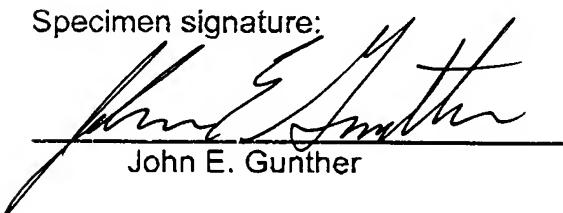
September 30, 2003

Date

A handwritten signature of Glenn H. Lenzen, Jr.

Glenn H. Lenzen, Jr.  
Vice President

Specimen signature:



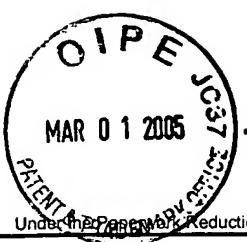
A handwritten signature of John E. Gunther.

John E. Gunther

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PTO/SB/96 (09-04)

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**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: RAYTHEON COMPANY

Application No./Patent No.: 10/628,897 Filed/Issue Date: July 28, 2003

Entitled: STIRLING/PULSE TUBE HYBRID CRYOCOOLER WITH GAS FLOW SHUNT

RAYTHEON COMPANY, a Corporation  
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1.  the assignee of the entire right, title, and interest; or  
2.  an assignee of less than the entire right, title and interest.  
The extent (by percentage) of its ownership interest is \_\_\_\_\_ %

in the patent application/patent identified above by virtue of either:

A  An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 014368, Frame 0390, or for which a copy thereof is attached.

OR

B  A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at  
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3. From: \_\_\_\_\_ To: \_\_\_\_\_  
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Additional documents in the chain of title are listed on a supplemental sheet.

Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature

JOHN E. GUNTHER

Printed or Typed Name

February 21, 2005

Date

(310) 647-3723

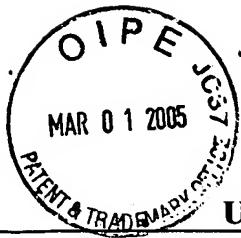
Telephone Number

REGIONAL PATENT ENGINEER

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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JEG

**UNITED STATES PATENT AND TRADEMARK OFFICE**UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

MARCH 12, 2004

RAYTHEON COMPANY  
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NOTICEUNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 07/28/2003

REEL/FRAME: 014368/0390

NUMBER OF PAGES: 4

BRIEF: ASSIGNMENT OF ASSIGNEE'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNEE:

PRICE, KENNETH D.

DOC DATE: 07/22/2003

ASSIGNEE:

KIRKCONNELL, CARL S.

DOC DATE: 07/24/2003

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ASSIGNEE:

CICCARELLI, KEN J.

DOC DATE: 07/24/2003

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ASSIGNEE:

RAYTHEON COMPANY  
141 SPRING STREET  
LEXINGTON, MASSACHUSETTS 02421

SERIAL NUMBER: 10628897

FILING DATE: 07/28/2003

PATENT NUMBER:

ISSUE DATE:

014368/0390 PAGE 2

DOROTHY RILEY, PARALEGAL  
ASSIGNMENT DIVISION  
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